

OpenCable™ Specifications

HOST 2.0 Home Networking Extension

OC-SP-HOST2-HNEXT-I01-060630

ISSUED

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- Work in Progress** An incomplete document, designed to guide discussion and generate feedback, that may include several alternative requirements for consideration.
- Draft** A document in specification format considered largely complete, but lacking review by Members and vendors. Drafts are susceptible to substantial change during the review process.
- Issued** A stable document, which has undergone rigorous member and vendor review and is suitable for product design and development, cross-vendor interoperability, and for certification testing.
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Contents

1	SCOPE	1
1.1	Introduction and Overview.....	1
1.2	Purpose of document.....	1
1.3	Requirements.....	1
2	REFERENCES	2
2.1	Normative References	2
2.2	Informative References	2
2.3	Reference Acquisition	2
3	TERMS AND DEFINITIONS	3
4	ABBREVIATIONS AND ACRONYMS	3
5	TECHNICAL REQUIREMENTS	4
5.1	General Requirements	4
5.1.1	<i>OpenCable HOST 2.0 Compliance</i>	4
5.1.2	<i>Middleware</i>	4
5.2	Network Interface.....	4
5.2.1	<i>Physical and MAC Layers</i>	4
5.2.2	<i>Network Layer</i>	4
5.3	Media Types	4
5.4	Quality of Service (QoS).....	4
5.5	Cable Content Distribution.....	5
5.6	Device Interoperability	5

1 SCOPE

1.1 Introduction and Overview

The OpenCable Host 2.0 specification defines bidirectional digital set-top boxes (OCS2) and bidirectional integrated terminal devices (OCT2). This specification defines the requirements for either OCS2 or OCT2 devices to be extended to include IP-based home networking support and enable home networking features to be implemented using the OCAP Home Networking Extension specification.

1.2 Purpose of document

This specification defines minimum technical requirements that must be added to an OpenCable Host 2.0 device to support OCAP Home Networking Extensions.

1.3 Requirements

Throughout this document, the words that are used to define the significance of particular requirements are capitalized. These words are:

“SHALL”	This word means that the item is an absolute requirement of this specification.
“SHALL NOT”	This phrase means that the item is an absolute prohibition of this specification.
“SHOULD”	This word means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course.
“SHOULD NOT”	This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
“MAY”	This word means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.

2 REFERENCES

2.1 Normative References

In order to claim compliance with this specification, it is necessary to conform to the following standards and other works as indicated, in addition to the other requirements of this specification. Notwithstanding, intellectual property rights may be required to use or implement such normative references.

- [HOST2.0] OC-SP-HOST2.0-CFR-I09-060622, OpenCable Host Device 2.0 Core Functional Requirements Specification, June 22, 2006, Cable Television Laboratories, Inc.
- [OCAP] OC-SP-OCAP1.0-I16-050803: OpenCable Application Platform Specification (OCAP) 1.0, August 03, 2005, Cable Television Laboratories, Inc.
- [OCAP HN] OC-SP-OCAP-HNEXT-I01-050519, OCAP Home Networking Extension, May 19, 2005, Cable Television Laboratories, Inc.
- [OCAP DVR] OC-SP-OCAP-DVR-I02-050524, OCAP Digital Video Recorder (DVR), May 24, 2005, Cable Television Laboratories, Inc.
- [HOST DVR] OC-SP-HOST2-DVREXT-I01-050502: Host 2.0 DVR Extension, May 2, 2005, Cable Television Laboratories, Inc.
- [802.3] IEEE 802.3-2002: IEEE Standard for information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specification, March 8, 2002
- [HNP] OC-SP-HNP-I01-060630, OpenCable Home Networking Protocol, June 30, 2006, Cable Television Laboratories, Inc.

2.2 Informative References

This specification does not include any informative references.

2.3 Reference Acquisition

CableLabs Specifications:

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3 TERMS AND DEFINITIONS

This specification does not define any specific terms and definitions.

4 ABBREVIATIONS AND ACRONYMS

This specification uses the following abbreviations:

AV	Audio/Video
HNHost	Home Networking Host
LAN	Local Area Network
MAC	Media Access Control
OCAP	OpenCable Application Platform Specification
OCAPHN	OCAP Home Networking Extension

5 TECHNICAL REQUIREMENTS

This section contains the technical requirements for this specification.

5.1 General Requirements

5.1.1 OpenCable HOST 2.0 Compliance

REQ2312 The HNHost SHALL comply with all normative requirements in [HOST2.0].

REQ2313 If the HNHost implements Digital Video Recorder (DVR) functionality, the device SHALL comply with all normative requirements in [HOST DVR].

5.1.2 Middleware

REQ2314 The HNHost SHALL comply with all normative requirements of [OCAP HN].

REQ2315 The HNHost SHALL support the mapping between the OCAP Home Networking Extension API [OCAP HN] and LAN protocol messaging as defined in [HNP].

5.2 Network Interface

5.2.1 Physical and MAC Layers

REQ2316 The HNHost SHALL provide a 10BASE-T / 100BASE-TX Ethernet physical interface and MAC layer for the LAN interface as specified in IEEE 802.3i and IEEE 802.3u [802.3].

5.2.2 Network Layer

REQ2317 The HNHost SHALL provide a network and transport layer for the LAN interface as specified in [HNP].

5.3 Media Types

REQ2318 The HNHOST SHALL support rendering of AV media types and formats as specified in [HOST2.0], [OCAP], and [HNP]. This includes both broadcast streaming and monomedia-based content formats.

REQ2319 The HNHOST SHALL support serving of AV media types and formats as specified in [HOST2.0], [OCAP], and [HNP] if the device implements [HOST DVR]. This includes both broadcast streaming and monomedia-based content formats.

5.4 Quality of Service (QoS)

The current version of the HN Host only supports Quality of Service at a best effort level. Later versions of this specification may address higher levels such as prioritized and parameterized QoS.

5.5 Cable Content Distribution

The current version of the HN Host only allows for discovery, serving and rendering of local content and prohibits the transport of cable-delivered content on the LAN regardless of the state of copy protection applied to the content. Later versions of the specification may address the issue of cable-delivered content on the LAN.

REQ2320 The HNHost SHALL NOT act as a content server with respect to broadcast content delivered on the cable plant.

REQ2321 If the HNHost implements Digital Video Recorder (DVR) functionality according to [HOST DVR], the device SHALL NOT act as a content server with respect to cable-delivered content residing in the DVR Time Shift Buffer or permanent storage.

5.6 Device Interoperability

REQ2322 The HNHost SHALL comply with the mandatory device interoperability guidelines as specified in the Device Interoperability Requirements section of [HNP].
